Result: All patients showed significant improvements in the ability to weight bear at one year compared to three months following surgery. 78% and 61% complained of severe pain and stiffness, respectively, one year post-operatively. Of those who responded to a foot and ankle outcome survey, all showed inability to perform strenuous physical activities and found their injury had a direct impact on their activities of daily living.
Conclusion: The study found chronic pain and joint stiffness to be prominent complications in minimally invasive calcaneal fracture repair. These findings confirm that calcaneal fractures have a poor outcome irrespective of technique used.

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1069: THE PROGRESSION OF SEVERE HALLUX VALGUS IN THE ORIENTAL POPULATION IN HONG KONG

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Background: Hallux valgus is a common forefoot deformity. Surgical correction has the best outcome but is not without its risks and complications. The study aims to identify whether severe acquired hallux valgus progresses radiologically over time in the oriental population and if surgery provides a satisfactory outcome.
Method: Patients with symptomatic hallux valgus from 2008 to 2013 were reviewed. Radiological angle measurements were taken at initial patient presentation, before surgery and at post-operative follow-up. Patients' basic demographic and radiographic assessment were analysed in accordance to time from presentation to surgery. Post-op complications and patient satisfaction was analysed from follow-up appointments.
Result: The cohort contained 36 patients with a mean age of 64 years old, all presenting with moderate to severe hallux valgus. The average wait for surgery was 705.7 days where the deformity had significantly progressed during this period ($p=0.04$). Complication rates post-op was 23.7% with infection being the most common. Patient satisfaction post-op was 79% as reported on follow up appointments.
Discussion: Severe hallux valgus deformity does progress over time in this cohort. This study suggests that a short waiting time to surgery would be more beneficial to the Hong Kong population who suffer with hallux valgus.

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1100: EARLY WEIGHT BEARING FUNCTIONAL REHABILITATION REDUCES THE RATE OF TENDO ACHILLES RE-RUPTURE: A CASE CONTROL SERIES

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The management and rehabilitation of acute tendo achilles (TA) rupture is controversial. Traditionally, patients are immobilised for variable periods before rehabilitation in both operatively and conservatively managed ruptures. Recent literature suggests that early weight bearing reduces the rate of re-rupture.
We developed a new protocol led by our physiotherapists based on early functional rehab for both operatively and conservatively managed patients. We compared the rate of re-rupture and other complications with a series of patients managed in non-weight bearing regimes.
Eighteen patients in a control group were treated for acute TA rupture with the old non-weight bearing rehab regime. Three patients had a re-rupture within 6 months of injury (2 surgical vs 1 non-op). 52 patients underwent an early functional rehab protocol (17 operatively vs 35 non-operative). One patient (surgical group) had a re-rupture, demonstrating a statistically significant difference in re-rupture rate between the early and late rehab groups ($p=0.496$).
Physiotherapy-led early functional rehab is safe to use following TA rupture, has cost-saving implications and is more convenient for patients. This series supports the evidence that early weight bearing reduces the risk of re-rupture.

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1114: MODIFIEDLAPIDUS ARTHRODESIS FOR SEVERE HALLUX VALGUS DEFORMITIES USING AN INTRA-OSSEOUSFIXATION IMPLANT – A PRELIMINARY REPORT

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Background: A modified Lapidus arthrodesis is a commonly accepted treatment for severe hallux valgus deformities. We present our initial experience using an intra-osseous implant (IoFix, Extremity Medical, NJ, USA) as a method of fixation.
Method: Medical records and radiographs were reviewed for all patients who underwent surgery between April 2009 and April 2014. Patient reported outcome measures using the Manchester Oxford Foot Questionnaire (MOXFQ) and EQ-5D were collected. Radiographic outcomes using the intermetatarsal (IMA) and hallux valgus angles (HVA) were measured.
Result: Twenty-four patients (25 feet) were included in the study. Average follow-up was 8.8 months. Sixteen patients (64%) completed the MOXFQ and EQ5D questionnaires. The average EQ5D scores improved from 0.783 to 0.886 ($p<0.02$). The average MOXFQ score improved from 42.5 (IQR 21.1) to 20.8 (IQR 27.3) ($p<0.01$). The average IMA improved from 16.2° to 10.9°. The HVA improved from 37.9° to 10.9° ($p<0.05$). There were 3 superficial infections (9%) and no non-unions.
Conclusion: Our initial experience with an intra-osseous method of fixation appears to provide suitable outcomes with an acceptable level of complications. The implants' reduced profile and uniform compression is advantageous. Modified Lapidus arthrodesis using the IoFix implant as a method of fixation is an acceptable technique.

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1116: IS TIP-APEX DISTANCE RELATED TO RADIATION USE?

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The importance of the Tip-Apex Distance (TAD) in roximal femoral fracture fixation is well documented and an important technical consideration. We hypothesised that surgeons using longer exposures for a given fracture should achieve better TADs.
We retrospectively analysed fixations for a 12 month period 245 cases were identified. Revisions, devices with more than 1 proximal screw and cases with incomplete data were excluded. TAD in Im devices on average was greater than that for DHS, As was radiation exposure. With both devices, seniority increased TAD on average this was associated wth an increase in exposure. There was however no correlation between radiation exposure and TAD across the groups (R 0.08).
Consultants particularly with IM devices used substantially more radiation on average (6.2/2.5 mSv)and achieved lower TADs (19.7/ 17.5mm) compared to SpRs. This may well represent a greater complexity of work undertaken It may also represent an unwillingness of trainees to compromse on TAD. We conclude seniorty does not result in improved TAD for a given exposure.

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1152: TIMING OF THE ORTHOPAEDIC SURGICAL INTERVENTION IN PATIENTS WITH POLY-TRAUMA: A SYSTEMATIC REVIEW

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Aim: To assess the effects of the timing of orthopaedic surgical intervention on the incidence rates of acute respiratory distress syndrome (ARDS),

multiple organ dysfunction syndrome (MODS), systematic inflammatory response syndrome (SIRS), sepsis, fat embolism, morbidity and mortality in patients admitted with poly-trauma.
Method: CENTRAL, MEDLINE 1950 – present, EMBASE 1980 – 2015 and AMED (1985 to 2015) were searched for the relevant papers. Studies written in English language, which compared the timing effect of the orthopaedic intervention (Early vs. Delayed), on the aforementioned complications in patients with poly-trauma, were included.
Result: 7 studies met the inclusion criteria encompassing a total of 3,461 participants. 2 studies advocated early intervention compared to 5 studies supporting the use of damage control orthopaedics and delaying the timing of surgery for > 24 hrs (Delayed intervention). The complication rates varied across the studies for each intervention category. Nevertheless, the mortality rate was higher with the delayed intervention in 6 of the 7 studies.
Conclusion: It appears that delaying the definitive orthopaedic surgical intervention is the more popular choice due to the reduced complication rates, compared to early interventions. Nevertheless, our findings cannot validate such approach, as the appropriate intevention could be case dependent.

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1237: TRENDS IN DISCHARGE LOCATIONS FOR PATIENTS POST HIP FRACTURES: A 10 YEAR EXPERIENCE FROM AN IRISH TRAUMA CENTRE

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Introduction: With the introduction of the Irish governments Nursing Home Support Scheme in 2009 we set out to assess if there has been a decrease in patients being discharged to nursing homes after hip fractures and compare our rates with national rates.
Aim: Assess trends in discharge destination for all hip fractures over a 10 year period.
Method: Data acquisition from hospital registry for all hip fractures presenting to our institution from 2005-2015 and from the National Hip Fracture Database from 2013. Patients were categorised by age, sex, pre-admission location and length of inpatient stay. Annual rates of patient being discharge to nursing homes was accumulated and comparison made with national rates.
Result: A total of 4,395 patients were admitted with or who subsequently developed a hip fracture, from January 2005 until September 2015. 1019 were discharged to nursing homes and long stay facilities. Annual figures show that there has been a decline in patients being transferred to long term care facilities.
Conclusion: Since inception of Nursing Home Support Scheme, there are annually, fewer patients transferring to nursing home care. Future projections should further invest in rehabilitation and home support services for patients.

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1262: INAPPROPRIATE MEASUREMENT OF POSTOPERATIVE C-REACTIVE PROTEIN IN TRAUMA AND ORTHOPAEDIC SURGERY: A QUALITY IMPROVEMENT PROJECT

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Aim: Measurement of early postoperative CRP is inappropriate where infection is not suspected. This quality improvement project aimed to reduce the cost of inappropriate early postoperative CRP testing at a busy major trauma centre.
Method: Retrospective audit. All adult general trauma patients, and elective patients undergoing hip or knee primary arthroplasty in May 2015 were included. Hand and foot surgery, and patients with a pre-operative leucocytosis were excluded. CRP was collected at three time points; postoperative days 1,2 and 3.
Result: 65 elective and 122 trauma patients were included (mean age=64.8y, range=18-98). CRP was measured in 90 (48%) postoperative patients; 24 (37%) elective cases and 66 (54%) trauma cases. A total of 118 tests were requested between postoperative days 1 and 3. Only 24 of the 90 patients tested had >1 CRP to monitor a trend. At a cost of £3.29 per test, our department spends £388/month or £4658/year on inappropriate testing. Extrapolated to the Welsh deanery, there is a cost-saving potential of £160,205 in elective, and over £300,000 in trauma settings.
Conclusion: Early postoperative CRP testing is common, and may mislead clinical judgement. Avoiding inappropriate postoperative CRP testing in general trauma patients has a small, but significant economic benefit.

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1327: CRITIQUING OPERATIVE FRACTURE FIXATION: THE DEVELOPMENT OF AN ASSESSMENT TOOL

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Introduction: A tool for formally assessing operative fracture fixation would provide a framework for orthopaedic surgeons to plan procedures, enable feedback on the technical aspects of surgery to be provided and thereby assist in development and training. It could also be used remotely to allow distant mentoring. The aim of this work was to develop a tool and undertake reliability and validity assessments.
Method: The developed tool comprises of 4 questions which reflect AO principles (pertaining fracture reduction, stability, implants used and overall surgical impression). Ten orthopaedic consultants were selected as reviewers and completed the assessment of 20 cases using an online webpage. Inter-observer reliability and content validity were assessed by accepted means.
Result: Average measure inter-class correlation coefficients ranged from 0.91-0.92. A Cronbach's Alpha of 0.97 indicated excellent internal consistency. A content validity ratio of 0.65 indicated the expert reviews considered the tool valid.
Discussion: The results of this initial work are promising. Further evaluation will assess intra-assessor reliability. A smartphone application will be developed to enable the tool to be introduced for use in Africa as part of the AO Alliance Foundation with the aim of assisting in surgeon training.

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1351: A REVIEW OF FUNCTIONAL OUTCOMES AND UNION RATES IN PATIENTS WITH LATERAL CLAVICULAR FRACTURES TREATED WITH HOOK PLATE FIXATION

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Introduction: Clavicular hook plates have been used over the last decade in the treatment of lateral clavicular fractures with good rates of union reported throughout the literature. Fewer studies have reported the functional outcome. We aimed to review the functional outcomes.
Method: 21 patients were included with Neer II & III fractures treated with hook plates between March 2010 and February 2015. Patients were followed up post plate removal and evaluated clinically using the Oxford Shoulder Score. Their post plate radiographs were assessed by an independent radiologist and bony union documented.
Result: Mean age was 40 (range 14-63) with a male: female ratio of 17: 4. Mean follow up was 5 months post injury (1-26). The hook plate remained for a mean time of 4.3 months (2-16). One patient developed a postoperative wound infection treated with antibiotics, 2 patients developed adhesive capsulitis, one patient had not achieved bony union prior to hook plate removal at 16 months, two patients required revision. All patients